

Bhutan for Life

Environmental and Social Management Plan for Biological Corridor 6 (2020)

1. Introduction

(A) Project Background

The Bhutan for Life (BFL) project aims to ensure a robust network of protected areas and biological corridors that secures human well-being, biodiversity conservation and increase climate resilience in Bhutan. The project provides a 14-year financial bridge that allows for immediate improvement in the management of Bhutan's protected areas for climate resilience, and the prompt delivery of mitigation, adaptation and biodiversity gains, while the country gradually ratchets up its own financing resources.

BFL seeks to achieve the following objectives:

- Help Bhutan remain carbon neutral by increasing forest and vegetative cover within the Protected Area System;
- Enhance the socio-economic wellbeing of communities in and in the vicinity of the PAS through climate-informed natural resources management;
- Maintain stable, thriving and diverse populations of key species contributing toward national and global biodiversity goals;
- Strengthen organizational, institutional, and financial capacity for effective management of PAS.

BFL includes five components that reflect these goals, divided into 16 milestones (or outputs) and over 80 detailed activities.

(B) Scope of ESMP

The preparation of this Environmental and Social Management Plan (ESMP) was required in order to manage the environmental and social impacts through and specific mitigation actions required to implement the project in accordance with the requirements of WWF's Social Safeguards Integrated Policies and Procedures (SIPP), the project's Environmental and Social Management Framework (ESMF), and applicable national legislation and regulations.

The ESMP provides an overview of the environmental and social baseline conditions on the routes of the proposed second segment of the project, summarizes the potential impacts associated with the proposed activities and sets out the management measures required to mitigate any potential negative impacts.

This ESMP will be implemented by BFL focal person in each park authority (PA) and biological corridor (BC), and by the contractor to be commissioned by each PA/BC for the project.

(C) Purpose of ESMP

This Site-Specific ESMP is a project-specific source document detailing the environmental and social protection requirements to mitigate and minimize the adverse impacts. The ESMP's primary purpose is to ensure that the environmental requirements and social commitments associated with the project are carried forward into implementation and operational phases of the project and are effectively managed. The specific objectives of this ESMP are as hereunder:

- Minimizing any adverse environmental, social and health impacts resulting from the project activities;
- Conducting all project activities in accordance with the relevant RGoB Laws and WWF's safeguard operational policies and guidelines;

- Preventing environmental degradation as a result of either individual subprojects or their cumulative effects;
- Enhancing the positive environmental and social outcomes of project activities;
- Ensuring that the proposed mitigation measures are feasible and cost-efficient;
- Providing an Action Plan to ensure that the project impact mitigation measures are properly implemented and monitored;
- Ensuring that all stakeholders are engaged in the project activities' preparation and implementation, and their concerns are fully addressed.

(D) Applicable law, policies, and regulation

This ESMP is developed by following the guidelines as set forth in the BFL's ESMF.

Applicable RGoB laws and policies include the Constitution of the Kingdom of Bhutan, 2008; legislation on land and moveable property (Land Act of Bhutan 2007; Land Rules, 2007; The Moveable Cultural Property act of Bhutan, 2005); legislation and regulations on forests and protected areas (National Environment Protection Act, 2007; Forest and Nature Conservation Act of Bhutan, 1995; Forest and Nature Conservation Rules and Regulations of Bhutan, 2017; National Forest Policy, 2011); legislation on water and waste prevention (Water Act of Bhutan, 2011; Waste Prevention and Management Act, 2009); legislative requirements on environmental assessment (Environmental Assessment Act, 2000 and Regulations on the Environmental Clearance of Projects, 2001); and other relevant laws (The Local Government Act of Bhutan, 2009; Livestock Act of Bhutan, 2001; The Biodiversity Act of Bhutan, 2003; The Pesticides Act of Bhutan, 2000; The Penal Code of Bhutan, 2004; National Access and Benefit Sharing (ABS) Policy (Draft), 2014).

WWF's safeguards policies that are relevant to this project are as follows: Policy on Environment and Social Risk Management; Policy on Protection of Natural Habitats; Policy on Involuntary Resettlement; Policy on Indigenous Peoples; Standard on Pest Management; Policy on Accountability and Grievance System; Standard on Physical Cultural Resources; as well as general standards on occupational and community health and safety and on energy efficiency.

In general, RGoB's laws, policies, and guidelines are in line with the WWF's environmental and social safeguards requirements. However, there are a few differences between the two systems. With regard to environmental impacts, there are no direct contradictions between the RGoB laws and regulations and the WWF's SIPP, but the requirements of the latter are more extensive. All project activities should fully comply both with the RGoB's Regulations on the Environmental Clearance of Projects, and with the procedures and mitigation measures prescribed in this ESMF. In case that the WWF's SIPP requirements are more extensive, strict, or detailed than the RGoB legislation and policies, the former will apply to all project activities. With regard to social impacts, the primary discrepancies between the RGoB laws and regulations and the WWF's SIPP refer to the status of non-title holders and informal land use, and the commitment to participatory decision-making processes. First, according to the WWF's SIPP, all users of land and natural resources (including people that lack any formal legal ownership title or usage rights) are eligible to some form of assistance or compensation if the project adversely affects their livelihoods. The RGoB laws only recognize the eligibility of land owners or formal users to receive compensation in such cases. Second, the WWF's SIPP require extensive community consultations as part of the development of various safeguards documents and during project activities. RGoB legislation does not include similar requirements. For the purposes of the BFL project, the provisions of the WWF's SIPP shall prevail over the RGoB legislation in all cases of discrepancy.

2. Environmental and Socio-Economic Conditions:

BC 6 connects Sakteng Wildlife Sanctuary (SWS) in the north with Jomotsangkha Wildlife Sanctuary (JWS) in the South with total area of 270.80 km² out of which about 124.56 km² or 46% is under Trashigang District (Kangpara; 19.87% & Merak; 26.38%) under Trashigang District, while 54 percent lies under Samdrup Jongkar District (Laurii; 15.93%, Martshella; 17.13%, Serthi; 17.70% and Samrang; 2.96%). Although majority of BC6 area falls under the two wildlife Sanctuaries (Figure 1), the management authority is delegated to Trashigang Territorial Division (Hereafter referred to as TFD) as per the Haa Resolution 2019. The location of BC 6 is shown in Figure 1.

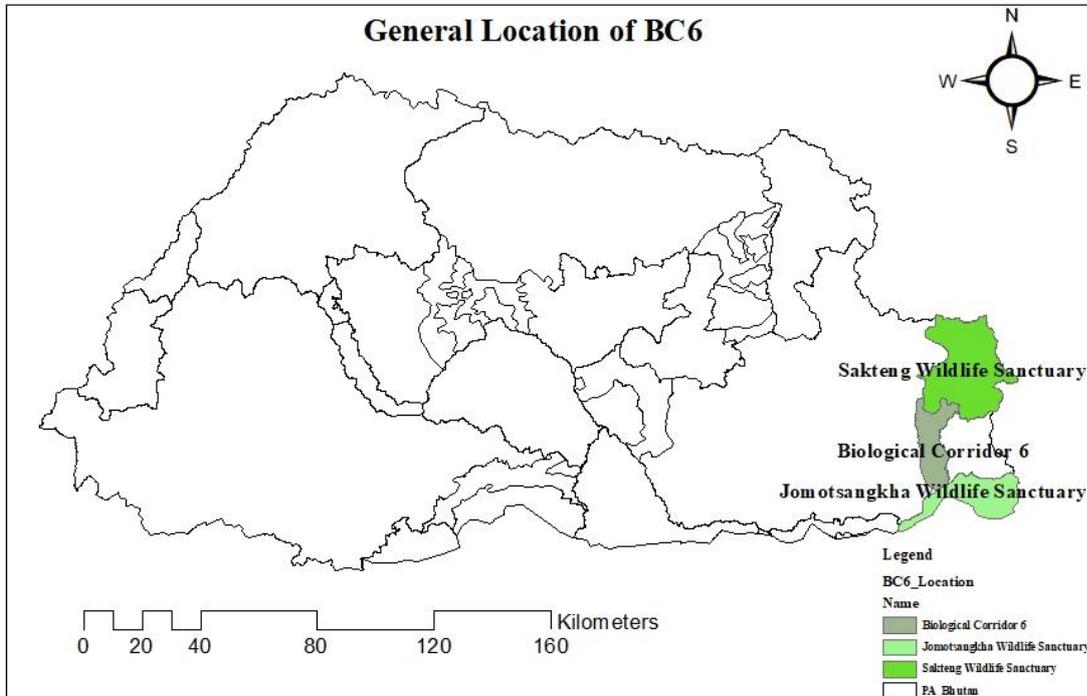


Figure 1 General Location of BC 6 in relation to B2C2 in Bhutan (This is as per New PAs size)

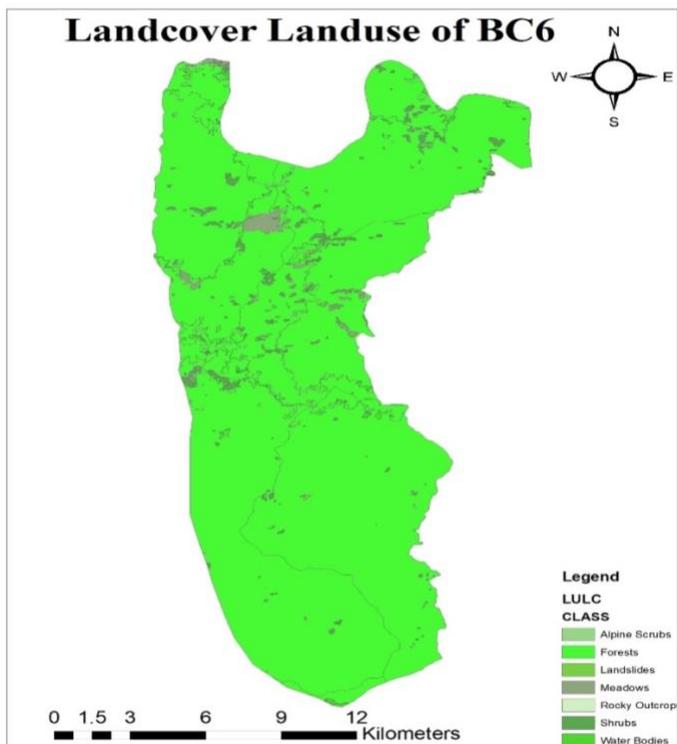


Figure 2 Land Use map of Biological Corridor Six (As per New boundary approved from Ministry)

Table 1: General Land use & Percent cover map of BC 6

Land Use Class	Sq.km	Percent Cover
Forest	268.86	99.28*
Water Bodies	0.05	0.02
Alpine Scrub	0.033	0.01
Meadow	0.863	0.32
Shrub	0.899	0.33
Landslide	0.064	0.02
Rock	0.0193	0.01
Total	270.8	100

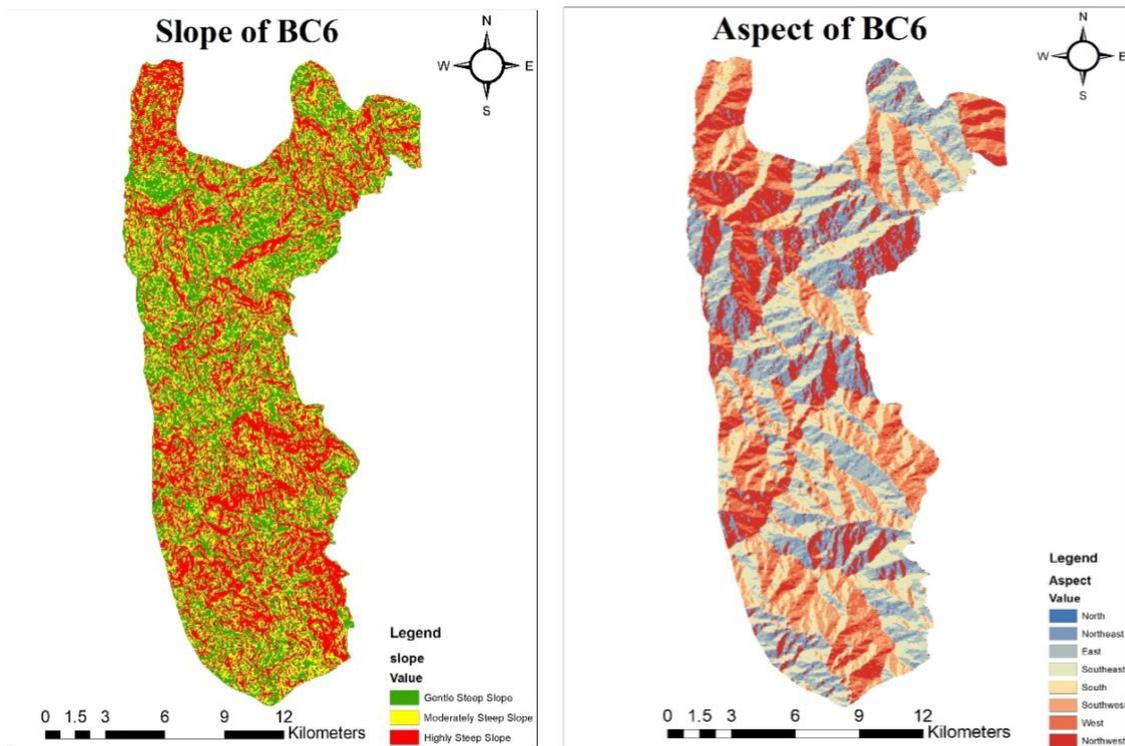


Figure 3 Slope & Aspect of BC 6 (Slope is re-classed into Gentle ($\leq 25^\circ$), Moderate ($\geq 25^\circ$ to 35°) & Steep Slope ($\geq 35^\circ$)

Table 2: Re-classed Aspect of BC 6

Aspect Class	Area in Sq. Km	Percent cover
North	0.4106903	0.1516611
Northeast	33.237503	12.274058
East	42.566287	15.719023
Southeast	40.610987	14.996964
South	32.275782	11.918911
Southwest	37.59237	13.882238
West	32.800983	12.112859
Northwest	51.300128	18.944286*
	270.79473	100

Table 3: Re-classed Aspect of BC 6

Slope Class	Cell Count	Area in Sq. Km	Percent cover
0-25	97220	83.70505834	30.91088876
25-35	102562	88.30444552	32.60936611
>35	114735	98.78522802	36.47974513*
		270.7947319	100

Biological Corridor-6 (BC6) was declared in 1999 but there is no management plan as of now or conservation implementation done in any form. Even the local communities are not aware of BC6 existence thus an awareness program is crucial before implementing the activities under BC6.

The BC 6 has over 99.28 %; 268.86Km² of the land covered under forest cover broad-leaved forests comprising of different types of forest types such as Cool Broad-Leaved Forest and Fir Forest, shrubs (0.33%: 0.899 Km²%) and meadows (0.03%; 0.863km²). There are no records of permanent settlement inside BC areas (LULC 2016). However, about 2253 Household with a population of over 18,902 are recorded in Six Geog of Merak, Kangpara, Lauri, Serthig, Martshela & Samrang under Trashigang and Samdrup Jongkhar District respectively in which BC 6 falls partially or in buffer areas.

Table 3: Population in BC 6

Dzongkhag/Gewog information	Total Households in gewog	Males in gewog	Females in gewog	Total Population
Dzongkhag: Trashigang				
Gewog: Merak (Khashiteng Village)	253(9)	(16)	(16)	2401(32)
Gewog: Kangpara	549	2581	2450	5031
Dzongkhag: Samdrup Jongkhar				
Gewog: Martshela (TshogTshalu Village)	501 (38*)			4116(350*)
Gewog: Serthig- (Largab Village)	373(7)	(30)	(26)	2353(56)
Gewog: Laurii	545	2270	2331	4601
Gewog: Samrang	32			402

Source: Geog Administration, RNR-EC and BHU of respective Geog. Information are collected through online resources

These are tentative figures as the socio-economic survey is yet to be assessed and finalized. The rivers, streams and water bodies contribute to about 0.02% or 0.05 Sq. Km of the total corridor area, mainly consisting from portion of *Nyera Ama* River in West and *Jomorii* in East. The main source of income for the communities in the area is agricultural farming in lower Geog of BC 6, such as Martshela, Serthig, Kangpara and Samrang. however, community of Merak and Lauri are into livestock-based farming.

The general topography for this corridor is moderate to steep slope ranging from zero degrees to more than 35 degrees. The slope classification was carried out based on the standard adopted for developing Local Forest Management Plans (LFMP) in Bhutan. It was classified at an

interval of 0 – 25 degrees, 25-35 degrees and more than 35 degrees corresponding to gentle slope, moderately steep slope and steep slope respectively. The spatial information was generated in ArcGis 10.4 Version with LULC 2016.

BC 6 areas have equal proportion of slope with slight differences in percent cover. Steep slope constitutes 36%, followed by 32% of gentle slope and only about 30% are gentle slope. The spatial occurrences are well distributed all across BC 6 areas. Typically, gentle slope is concentrated in high altitude sub alpine areas and valley, whereas, the middle portion of areas, near *Tshong Tshongma* Base, the slope is steep. These are the areas that occurs mostly along the ridges and at many parts were found inaccessible to people. North-West facing aspect dominate the areas with 18.94%, followed by East and South East Facing slope.

3. Planned activities in Y2020

Activities that are planned in BC 6 in 2020 include the following:

1. Improved lowland grassland for habitat restoration of 1Ha area at BC 6 will be carried out in phase wise manner. It includes removal of invasive species (such as *Mechanthesis*, *Epatorium* etc.) and raising palatable grass (*Napier*, *psynodon*). The budget allocated is USD 3000 and the planned date is July 2020 to December 2020. The work will be carried out by the 15 trained forestry staffs for 10-15 days over six months period as it is very difficult to get workers to work in this kind of place. There will be no cutting of trees but there will be digging on site for removal and burning of invasive species which will be carried out in a controlled manner. The exotic species are invasive so these species need to be destroyed by burning. The site is in the middle of the forest with no settlements and there is no access of natural resources by the communities. The site is in the habitat for gaur and elephant. The forestry staff will be camping in an eco-friendly manner and as they are skilled and professional, they are trained to avoid conflict with wild animals (such as working in groups and working before dusk and after dawn).

The environmental and social impacts are the following:

- Risk of forest fire with air pollution;
- Change in the vegetation cover due to the removal of the exotic species and burning of these species.



Figure 4 Lowland grassland

2. Restoration of salt lick, and waterholes at BC 6. The planned area is 2 Ha and the planned start date is June 2020 to June 2021. The budget for the activity is USD 4761.9. There are no communities in the activity site and the activity includes digging of earth manually for creating artificial waterhole in the arid areas of BC 6. This is to facilitate infiltration of water during monsoon season. It also includes removal and clearing of snags, and debris in and around the waterholes as well as the trails to water holes for the animals. Some of the waterholes in the area for the activity is as big as lake which are often sacred and revered as holy by the community and requires religious offerings to the deities of the lakes (waterholes). Another activity includes removing of fence around the water hole as shown in the figure below which was fenced by the local community to avoid wild animals from drinking. This was done without any consent from the Forestry Department. This causes siltation of water hole and wildlife is deprived of drinking water Therefore, one of the activities involve removing of the fence.

The environmental and social impacts are the following

- Wastes: Soil from digging activities and waste from the bio degradable from cleaning activities such as dried grasses, snags and debris;
- Workers' health and safety (safety gears and religious offerings);
- Increased poaching as the area becomes a hotspot for the animals to gather and exposed for easy poaching;
- Conflicts with the local communities due to removal of fence around the waterhole;
- **Disturbance to cultural and religious beliefs since the lake is revered as holy.**



Figure 5 Fenced Waterhole

For the salt lick restoration, the activity includes removal of debris and dried leaves and grasses from the existing salt lick sites. All the activities will be carried out by the 10-15 numbers of skilled forestry officials.



Figure 6 Camping in the forest during waterhole restoration

4. Environmental and Social Impacts and Mitigation Measures

1. Improving lowland grassland for habitat restoration.

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Costs
Activity: Restoration of lowland grassland				USD 3,000
Risk of forest fire with air pollution	Short term Minor	<ul style="list-style-type: none"> Controlled burning to be carried out by making fire line. 	BFL focal person (BC6)	To be incorporated in activity budget
Change in the vegetation cover due to the removal of the exotic species and burning these species	Short term Minor	<ul style="list-style-type: none"> Assess the impacts of climate change on lowland grasslands to identify alternative approaches to the sustainable management of the grasslands (as part of the BFL climate change component); Ensure that no accidental damage is caused to local vegetation—species that need to be removed shall be clearly marked, and only marked species will be removed; Removal of species needs to be done in an environmentally sustainable way (e.g. manually). 	BFL focal person (BC6)	To be incorporated in activity budget

2. Restoration and improvement of waterholes and salt licks

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Cost US\$4,761.90
Wastes: Soil from digging activities and	Short term Minor	<ul style="list-style-type: none"> Dumping of waste such as soil from digging activities in the waterholes, or in other 	BFL focal person (BC 6)	To be incorporated in activity budget

waste from the bio degradable from cleaning activities such as dried grasses, snags and debris		<p>non-designated places should be strictly prohibited;</p> <ul style="list-style-type: none"> • Dumping of waste shall be prohibited on fragile slopes, forests, religious or other culturally sensitive areas or areas where livelihood is derived; • Collection, transportation and final disposal of all waste should be carried out on a daily basis and not left in the protected areas; • Burning of degradable wastes such as dried grasses should be prohibited. 		
Workers' health and safety	Short term Minor	<ul style="list-style-type: none"> • Comply with the workers' health and safety guidelines as stated in BFL OHS; • Provide workers with safety gears (Life-jackets as some waterholes in the area are as big as lake, boots, safety gloves, first aid kits). 	BFL focal person (BC 6)	Nu. 18,000 = USD 255.32 for safety gears and first aid kits
Increased poaching as the area becomes a hotspot for the animals to gather and exposed for easy poaching.	Long term Minor	<ul style="list-style-type: none"> • Construct waterholes in areas where poaching is limited; • BC authorities shall carry out increased patrolling during and after the waterhole construction. 	BFL focal person (BC 6)	Part of regular patrolling.
Conflict with the local communities due to removal of fence around the waterhole	Short term Minor	<ul style="list-style-type: none"> • Consultations with the community to be held for removal of the fence. 	BFL focal person (BC 6)	Nu 50,000 = USD 709.22
Disturbance to cultural and religious beliefs since the lake is revered as holy	Short term Minor	<ul style="list-style-type: none"> • Perform religious offering and rituals to appease and get consent from the local deities. 	BFL focal person (BC 6)	Nu. 20,000 = USD 283.69

5. ESMP Implementation arrangements

The implementation of project activities will be carried out by the BFL focal person in BC 6. The focal person will be responsible for compliance with all procedures outlined in this ESMP, as well as compliance with any requirements to obtain clearances, permits, approvals, or consent documents from relevant authorities and stakeholders.

Since most of the activities outlined in 2020 will be carried out by the forestry official there is no need to sign an agreement with the Contractor(s) for implementation of the planned

activities in BC 6 in 2020. However, an OHS information session should be organized by the BFL focal for all workers/ forestry officials prior to start of the project activities and prior any specific tasks with high health risks.

The BFL focal of BC 6 needs to monitor the implementation of proposed measures with visual checking, reviewing the records of evidence that the measures have been applied. Non-compliances should be recorded and the Report on any non-compliances should be reported to the ESS consultants immediately, and the ESS consultants will report it to the PCU (M&E Officer). Each non-compliance should be closed with appropriate measure/s and the evidence should be kept.

Disbursement of project funds to the PA will be contingent upon their full compliance with the safeguards requirements.

6. ESMP monitoring arrangements

The BFL focal person in BC 6 will closely monitor the implementation of all planned activities and the required mitigation measures, and ensure that they fully comply with this ESMP and with the terms and conditions included in the environment clearances issued by RGoB's national authorities.

BC 6 is also fully responsible for the compliance of all external contractors and service providers working in the BC 6 with the safeguards requirements outlined in the ESMP.

The monitoring of activities under this ESMP will be carried out in the following manner:

1. Improving lowland grasslands (habitat management)

- Monitoring by implementing entities:
 - Field visits at least twice - during the intervention and within three months after the intervention

Dates	Location	Report
October, 2020	BC 6	Survey of sites
November, 2020	BC 6	Implementation
31 December, 2020	BC 6	Monitoring and Completion report

- Reports by the implementing entities submitted to ESS consultants within a week after each field visit

Dates	Location	Report
October, 2020	BC 6	Implementation report
31 December, 2020	BC 6	Completion report

- Monitoring by ESS consultants:
 - Field visits by ESS consultants – at least once during the intervention, together with the implementing party

Dates	Location	Report
October, 2020	BC 6	Monitoring

- Reports by ESS consultants to the PCU (M&E officer) – within one week after the field visit and within three months after the intervention

Dates	Location	Report
October 2020	PCU	Progress report
December, 2020	PCU	Completion report

- Annual Report by PCU (M&E officer) to Secretariat

Dates	Location	Report
15 January, 2021	BFL	Annual Progress Report

- Annual report of the Secretariat to WWF US

Dates	Location	Report
31 January, 2021	WWF	Annual Progress Report

2. Waterhole management:

- Monitoring by implementing entities:

- Field visits at least twice - during the intervention and then monthly as part of the “SMART patrolling” activity (please adapt based on field conditions, and also based on the availability of SMART patrolling activities)¹.

Dates	Location	Report
September, 2020	BC 6	Consultation meeting with Kangpara and Trelpu community
October, 2020	BC 6	Implementation of the activity
October - November, 2020	BC 6	Monitoring (SMART patrolling)

- Reports by the implementing entities submitted to ESS consultants weekly during the intervention and then monthly after the intervention completion

Dates	Location	Report
September, 2020	PCU, Thimphu	Implementation report
October - November, 2020	PCU, Thimphu	Monitoring and Progress report
December, 2020	PCU, Thimphu	Completion report

- Monitoring by ESS consultants:

- Field visits by ESS consultants – at least once during the intervention;

Dates	Location	Report
October, 2020	BC 6	Monitoring

- Reports by ESS consultants to the PCU (M&E officer) – within two weeks after the field visit and for semi-annual reporting

Dates	Location	Report
October, 2020	PCU	Implementation report
December, 2020	PCU	Annual report

- Annual report by PCU (M&E officer) to Secretariat

Dates	Location	Report
15 January, 2021	BFL	Annual Progress Report

¹ SMART Patrolling Plan: Trashigang Forest Division conducts one-time SMART patrolling (Border Patrolling) along the boundary of our Division. Since, BC 6 falls under Warmrong Range, Staff of Warmrong are engaged in annual border patrolling towards chenla and Ningshangla during winter season. (November to December 2020). However, normal patrolling is conducted two times a month. This is attributed to the long walking distance from nearest motorable road.

*(BC 6 is about 190 km away from HQ, Trashigang with two walking day (Two Dolam), frequent patrolling in BC 6 is expensive and rigorous task)

- Annual report of the Secretariat to WWF US (as part of mid-year and final APRs)

Dates	Location	Report
31 January, 2021	BFL	Annual Progress Report

7. Capacity Need and Budget

Activities under this ESMP will be implemented by the BFL focal person, and the forestry officials as stated above.

The budget for each of the activities is:

1. Improving lowland grasslands - US\$ 3,000
2. Improving waterholes: US\$ 4761.9

A separate budget of USD 1292.89 will cover the implementation of the ESMP mitigation measures.

8. Consultation and Disclosure Mechanisms

This ESMP has been prepared in a participatory manner with BC6. A community consultation will be carried out as described in section 9. This is mainly to inform local communities regarding the planned project activities, solicit their opinions, and enable them to question proposed mitigation measures. The main issues that were raised during the consultation meeting include the following:

The detailed minutes of the consultation meeting will be kept as a requirement for this ESMP, along with a full list of participants (disaggregated by gender and age).

The full English version of this ESMP, as well as an executive summary in Bhutanese, shall be disclosed on the website of MoAF, BFL and WWF, Bhutan Program. Hard copies of the ESMP should also be available at the PA Management Office and at the PCU Office.

9. Stakeholder engagement plan

The local community that resides in the vicinity of the planned BFL activities in BC 6 will be engaged throughout the implementation of these activities.

- For waterholes restoration activities, there will be consultation with the communities as some of the waterholes are as big as lake and are considered holy. The consultation will be with the local leaders (Gup) and the communities to inform and get consent from the communities. It will involve religious offerings to the deities of the lakes. The planned date of consultations is:
 - Date: 15 June, 2020 and 10 January, 2021
 - Agenda: Social consent on water holes restoration and removal of fencing.
- For lowland grassland management, the planned date of consultations is:
 - Dates: 1 October, 2020 and 10 January, 2021
 - Agenda: Conservation plan

The BFL focal person has to submit the official minutes of consultation meetings (along with a list of participants, disaggregated by gender and age) to ESS consultants within one week after the completion of the consultation. The ESS consultants will submit the consultation reports to the PCU (M&E officer) one week after their receipt. The PCU (M&E officer) will report to the Secretariat on a semi-annual basis.